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1 System level design paradigms: Platform-based design and communication synthesis

Alessandro Pinto, Alvise Bonivento, Allberto L. Sangiovanni-Vincentelli, Roberto Passerone, Marco Sgroi
June 2004 DAC '04: Proceedings of the 41st annual conference on Design automation
Publisher: ACM

Full text available:  [pdf\(338.16 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 17, Downloads (12 Months): 278, Citation Count: 1

Embedded system level design must be based on paradigms that make formal foundations and unification a cornerstone of their construction. Platform-Based designs and communication synthesis are important components of the paradigm shift we advocate. Communication ...

Keywords: Embedded systems, communication synthesis, platform-based design

2 Evolution of spectrum-agile cognitive radios: first wireless internet standard and beyond

Kiran Challapali, Carlos Cordeiro, Dagnachew Birru
August 2006 WICON '06: Proceedings of the 2nd annual international workshop on Wireless internet
Publisher: ACM

Full text available:  [pdf\(239.09 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 26, Downloads (12 Months): 293, Citation Count: 1

Spectrum agile radios, also known as cognitive radios, have received much attention from researchers recently. Although the promise of cognitive radios in terms of increased access to spectrum was widely recognized very early, specific applications that ...

Keywords: cognitive radios, dynamic spectrum access, multi-channel access, spectrum agile radios

3 Proportional fair throughput allocation in multirate IEEE 802.11e wireless LANs

Albert Banchs, Pablo Serrano, Huw Oliver
October 2007 Wireless Networks, Volume 13 Issue 5

Publisher: Kluwer Academic Publishers

Full text available:  pdf(475.62 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 17, Downloads (12 Months): 113, Citation Count: 0

Under heterogeneous radio conditions, Wireless LAN stations may use different modulation schemes, leading to a heterogeneity of bit rates. In such a situation, 802.11 DCF allocates the same throughput to all stations independently of their transmitting ...

Keywords: 802.11, 802.11e, QoS, TXOP limit, contention window, heterogeneous radio conditions, multirate, proportional fairness, throughput allocation, wireless LAN

4 Applying packet techniques to cellular radio

N. F. Maxemchuk

December 1999 *Wireless Networks*, Volume 5 Issue 6

Publisher: Kluwer Academic Publishers

Full text available:  pdf(310.07 KB) Additional Information: [full citation](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 2, Downloads (12 Months): 28, Citation Count: 0

5 Design and analysis of grouping-based DCF (GB-DCF) scheme for the MAC layer

◆ enhancement of 802.11 and 802.11n

Kuo-Chang Ting, Mao-yu Jan, Sung-huai Hsieh, Hsiu-Hui Lee, Feipei Lai

October 2006 MSWiM '06: Proceedings of the 9th ACM international symposium on Modeling analysis and simulation of wireless and mobile systems

Publisher: ACM

Full text available:  pdf(402.08 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 7, Downloads (12 Months): 152, Citation Count: 0

The 802.11 has emerged as the prominent wireless LAN technology as the mobile computing devices such as notebooks and PDA have replaced the desktop computers to be the main trend products. However, if the number of active stations is large, that is high-loading ...

Keywords: 802.11n, CP, DCF, GB-DCF, MAC, PC, PCF

6 Session level techniques for improving web browsing performance on wireless links

◆ Pablo Rodriguez, Sarit Mukherjee, Sampath Ramgarajan

May 2004 WWW '04: Proceedings of the 13th international conference on World Wide Web

Publisher: ACM

Full text available:  pdf(486.66 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 4, Downloads (12 Months): 54, Citation Count: 3

Recent observations through experiments that we have performed in current third generation wireless networks have revealed that the achieved throughput over wireless links varies widely depending on the application. In particular, the throughput achieved ...

Keywords: optimizations, web, wireless

 Evaluation of cross-layer interactions for reconfigurable radio platforms

Troy Weingart, Douglas C. Sicker, Dirk Grunwald

August 2006 TAPAS '06: Proceedings of the first international workshop on Technology and policy for accessing spectrum

Publisher: ACM

Full text available:  pdf(477.72 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 11, Downloads (12 Months): 171, Citation Count: 0

The flexibility of cognitive and software defined radio heralds an opportunity for researchers to reexamine how network protocol layers operate with respect to providing quality of service aware transmission among wireless nodes. This opportunity is ...

Keywords: adaptive, cognitive radio, cross-layer, optimization, software-defined radio, wireless system

8 Using cross layer design approach to achieve better quality of services for different wireless application types

 Hani Harbi

July 2006 IWCMC '06: Proceedings of the 2006 international conference on Wireless communications and mobile computing

Publisher: ACM

Full text available:  pdf(305.19 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 6, Downloads (12 Months): 58, Citation Count: 0

Due to the non-stationary wireless links and the rapid increase of new types of applications that require different levels of QoS parameters, the support for better QoS for the emerging 3GPP2 multimedia wireless applications becomes strongly needed. ...

Keywords: 1xDV-DV, QoS, cross-layer design, dynamic resource allocation, effective capacity

9 Impacts of channel variability on link-level throughput in wireless networks

 Can Emre Koksal, Kyle Jamieson, Emre Telatar, Patrick Thiran

June 2006 SIGMETRICS '06/ Performance '06: Proceedings of the joint international conference on Measurement and modeling of computer systems

Publisher: ACM

Full text available:  pdf(395.68 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 10, Downloads (12 Months): 89, Citation Count: 0

We study analytically and experimentally the throughput of the packetized time-varying discrete erasure channel with feedback, which closely captures the behavior of many practical physical layers. We observe that the channel variability at different ...

Keywords: channel modelling, channel variability, link estimation

10 On lower bounds for MAC layer contention in CSMA/CA-based wireless networks

 Frank A. Zdarsky, Ivan Martinovic, Jens B. Schmitt

September 2005 DIALM-POMC '05: Proceedings of the 2005 joint workshop on Foundations of mobile computing

Publisher: ACM

Full text available:  pdf(627.50 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 3, Downloads (12 Months): 51, Citation Count: 0

Wireless LANs operating within unlicensed frequency bands require random access schemes such as CSMA/CA, so that wireless networks from different administrative domains (for example wireless community networks) may co-exist without central coordination, ...

Keywords: CSMA/CA, community networks, contention, lower bound, wireless LANs

11 Cross-layer adaptive techniques for throughput enhancement in wireless OFDM-based networks

Iordanis Koutsopoulos, Leandros Tassiulas

October 2006 | IEEE/ ACM Transactions on Networking (TON), Volume 14 Issue 5

Publisher: IEEE Press

Full text available:  pdf(482.97 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 18, Downloads (12 Months): 225, Citation Count: 0

Although independent consideration of layers simplifies wireless system design, it is inadequate since: 1) it does not consider the effect of co-channel user interference on higher layers; 2) it does not address the impact of local adaptation actions ...

Keywords: cross-layer design, multicell systems, orthogonal frequency-division multiplexing (OFDM), resource allocation

12 An optimization framework for balancing throughput and fairness in wireless networks with QoS support

Ho Ting Cheng, Weihua Zhuang

August 2006 QShine '06: Proceedings of the 3rd international conference on Quality of service in heterogeneous wired/wireless networks

Publisher: ACM

Full text available:  pdf(121.01 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 7, Downloads (12 Months): 55, Citation Count: 0

Throughput and fairness are conflicting performance metrics, leading to a natural tradeoff between these two measures. In this paper, we derive a generic optimization framework to obtain a relationship of system throughput and fairness, by introducing ...

13 The impact of imperfect scheduling on cross-layer congestion control in wireless networks

Xiaojun Lin, Ness B. Shroff

April 2006 | IEEE/ ACM Transactions on Networking (TON), Volume 14 Issue 2

Publisher: IEEE Press

Full text available:  pdf(533.25 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 10, Downloads (12 Months): 149, Citation Count: 0

In this paper, we study cross-layer design for congestion control in multihop wireless networks. In previous work, we have developed an optimal cross-layer congestion control scheme that jointly computes both the rate allocation and the stabilizing schedule ...

Keywords: congestion control, cross-layer design, imperfect scheduling, mathematical programming/optimization, multihop wireless networks, stability, stochastic processes/queueing theory

14 Models and solutions for radio irregularity in wireless sensor networks Gang Zhou, Tian He, Sudha Krishnamurthy, John A. Stankovic

May 2006 ACM Transactions on Sensor Networks (TOSN), Volume 2 Issue 2

Publisher: ACM

Full text available:  pdf(1.60 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 20, Downloads (12 Months): 432, Citation Count: 4

In this article, we investigate the impact of radio irregularity on wireless sensor networks. Radio irregularity is a common phenomenon that arises from multiple factors, such as variance in RF sending power and different path losses, depending on the ...

Keywords: Sensor networks, link asymmetry, localization, packet loss, path loss, radio irregularity, sending power, topology control, wireless communication

15 A heuristic cross-layer mechanism for real-time traffic over IEEE 802.16 networks

Dionysia Triantafyllopoulou, Nikos Passas, Apostolis K. Salkintzis, Alexandros Kaloxyllos

September 2007 International Journal of Network Management, Volume 17 Issue 5

Publisher: John Wiley & Sons, Inc.

Full text available:  pdf(645.10 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 35, Downloads (12 Months): 237, Citation Count: 0

In this paper we propose and study a cross-layer mechanism that can improve real-time QoS provisioning over IEEE 802.16 metropolitan area networks. This mechanism utilizes information provided by the physical and MAC layers and using a heuristic algorithm ...

16 The physical performance and path loss in a fixed WiMAX deployment Pål Grønsund, Paal Engelstad, Torbjørn Johnsen, Tor Skeie

August 2007 IWCMC '07: Proceedings of the 2007 international conference on Wireless communications and mobile computing

Publisher: ACM

Full text available:  pdf(529.14 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 47, Downloads (12 Months): 563, Citation Count: 0

Fixed WiMAX is being deployed worldwide, and the networks are increasing in size. Measurements have been performed, but the amount of measurements are few and do therefore not demonstrate performance in a real life deployment. We have performed extensive ...

Keywords: WiMAX deployment, fixed WiMAX, path loss model, physical analysis

17 Experimental investigation of PHY layer rate control and frequency selection in 802.11-based ad-hoc networks Zhibin Wu, Sachin Ganu, Ivan Seskar, D. Raychaudhuri

August 2005 E-WIND '05: Proceedings of the 2005 ACM SIGCOMM workshop on Experimental approaches to wireless network design and analysis

Publisher: ACM

Full text available:  pdf(230.60 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 8, Downloads (12 Months): 52, Citation Count: 1

This paper presents an experimental investigation of the performance impact of two important PHY layer design options that arise in 802.11 ad-hoc networks. In particular, throughput results are provided for multi-hop ad-hoc networks with and without ...

Keywords: ad-hoc networks, experimental evaluation, multi-hop networks

18 Transport layer approaches for improving idle energy in challenged sensor networks

◆ Yong Wang, Chieh-Yih Wan, Margaret Martonosi, Li-Shiuan Peh
September 2006 CHANTS '06: Proceedings of the 2006 SIGCOMM workshop on Challenged networks

Publisher: ACM

Full text available:  pdf(952.01 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 16, Downloads (12 Months): 83, Citation Count: 0

Today, the study of energy efficient networking solutions in sensor networks has been focusing on networks with always-on connectivity between communication end-points and short link delays. However, these assumptions are not true for networks with very ...

Keywords: DTN, asynchronous wakeup, challenged sensor networks, idle energy, transport protocol

19 A practical cross-layer mechanism for fairness in 802.11 networks

Joseph Dunn, Michael Neufeld, Anmol Sheth, Dirk Grunwald, John Bennett
February 2006 Mobile Networks and Applications, Volume 11 Issue 1
Publisher: Kluwer Academic Publishers

Full text available:  pdf(1.17 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

Bibliometrics: Downloads (6 Weeks): 8, Downloads (12 Months): 67, Citation Count: 0

Many companies, organizations and communities are providing wireless hotspots that provide networking access using 802.11b wireless networks. Since wireless networks are more sensitive to variations in bandwidth and environmental interference than wired ...

Keywords: 802.11, cross-layer, quality of service, wireless

20 Channel-quality dependent earliest deadline due fair scheduling schemes for

◆ **wireless multimedia networks**

Ahmed K. F. Khattab, Khaled M. F. Elsayed
October 2004 MSWiM '04: Proceedings of the 7th ACM international symposium on Modeling, analysis and simulation of wireless and mobile systems
Publisher: ACM

Full text available:  pdf(141.85 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 8, Downloads (12 Months): 96, Citation Count: 3

Providing delay guarantees to time-sensitive traffic in wireless multimedia networks is a challenging issue. This is due to the time-varying link capacities and the variety of real-time applications expected to be handled by such networks. We propose ...

Keywords: QoS provisioning, fairness, multiuser diversity, performance evaluation and modeling, scheduling, wireless networks

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